



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/757,721	01/10/2001	Ursula Murschall	00/001 MFE	8369
38263	7590	05/18/2005	EXAMINER	
PROPAT, L.L.C.			RICKMAN, HOLLY C	
425-C SOUTH SHARON AMITY ROAD			ART UNIT	PAPER NUMBER
CHARLOTTE, NC 28211-2841			1773	

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/757,721

Applicant(s)

MURSCHALL ET AL.

Examiner

Holly Rickman

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 March 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/3/05 has been entered.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 6-12, and 14-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peiffer et al. (U55955181) in view of Oishi et al. (U55936048) and Rogers et al. (U55804626).

With respect to claim 1, it is noted that the limitation where said one or more flame retardants, "as dispersed component of a masterbatch, is fed directly by an extruder during the production of the film, said masterbatch having previously been dried by gradual heating at subatomic pressure, with stirring", is a process limitation in a product claim and does not appear

Art Unit: 1773

to be further limiting in so far as the structure of the product is concerned. Even though product claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP 2113.

The examiner takes the position that the combination of Peiffer with Oishi and Rogers results in a product that is the same as that instantly claimed. Although it was made via a different process, the product of Peiffer as modified by Oishi and Rogers results in a transparent biaxially oriented polyester film containing the same components in the same amounts as claimed by the applicant, as will be shown below.

Peiffer teaches a transparent, biaxially oriented heat sealable polyester film, wherein the film has at least one base layer and at least one outer layer (column 3, lines 45-50 and example 4). Peiffer does not teach the soluble flame retardant or the embrittlement requirements of claim 1. However, it is noted that Peiffer does teach that the base and outer layers may contain conventional additives, including but not limited to phosphorous based compounds (column 6, lines 49-54)

Bearing the above in mind, Oishi teaches a method for preparing a modified polymer resin (title). These polymer resins include polyester such as polyethylene terephthalate (column 17, lines 43-45). Oishi also teaches that in addition to a modified resin additive, an additive such as dimethyl-methylphosphonate (DMMP) may be added to a resin to provide that resin with

Art Unit: 1773

flame retardant properties (column 21 lines 4-11). Typically this flame retardant is added in an amount of 5-40% by weight (column 23 lines 47-48).

Therefore it would have been obvious to one with ordinary skill in the art to add a 5-40% of a flame retardant such as DMMP as taught by Oishi et al. to the polyester film of Peiffer.

One would have been motivated to make this modification due to the teaching in Peiffer that phosphorous based additives can be added to the film and the teaching in Oishi that introducing DMMP (a phosphorous based flame retardant) to a polyester increases its flame resistance. In the instant specification, DMMP is listed as a flame retardant that is soluble in polyesters. Thus, the examiner takes the position that the limitations regarding the flame retardant in claim 1 (i.e. solubility in polyester) are met when DMMP is added to the PET film of Peiffer et al.

However, Peiffer as modified by Oishi still fails to teach the embrittlement requirement of claim 1.

With respect to this deficiency, Rogers et al. teaches a polyester composition that comprises 95-99.90% by weight of a polyester, and 0.1-5.0% by weight of one or more polymeric carbodiimides (column 2, lines 34-50). Rogers et al. teaches that the carbodiimide acts as a hydrolysis stabilizer, which prevents the catalytic breakdown of polyesters at high temperature (column 7, lines 43-49). In a specific embodiment, Rogers et al. manufactures a PET film that contains 2% by weight of a carbodiimide known as Staboxal M (2, 2', 6,6'-tetrakisopropylidiphenyl carbodiimide). This PET film, when exposed to temperatures of 121 C for 9 days maintained at least 50% of its initial tensile strength (see examples). The examiner

Art Unit: 1773

interprets this retention of tensile strength as an indicator that the PET film of Rogers et al. has not "embrittled" after 9 days at a temperature over 100 degrees C.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to add 0.1-5% by weight of a hydrolysis stabilizer as taught by Rogers to the polyester film taught by Peiffer as modified by Oishi.

One would have been motivated to make this modification in view of the fact that the polyester film of Peiffer is heat sealed at relatively high (110 degrees C) temperature and the teaching in Rogers that adding a hydrolysis stabilizer prevent catalytic breakdown of polyesters at high temperature.

The examiner takes the position that the applicant's requirement in claim 1 of a polyester that does not embrittle after 100 hours at 1000 degrees C is met by the combination of Peiffer with Oishi and Rogers. This is due to the fact that Rogers et al. specifically teaches that when a hydrolysis stabilizer is utilized in a PET film, the film retains at least 50% of its mechanical strength after 9 days (216 hours) at 121 degrees C.

The limitations of claim 3 further limit the process limitations in claim 1. Thus, the limitations of claim 3 are process limitation in a product claim and do not appear to be further limiting in so far as the structure of the product is concerned. As stated above, the examiner maintains that the combination of Peiffer with Oishi and Rogers results in a product that is the same as that instantly claimed although it was made by a different process. This is in light of the fact that this combination of references results in a product that is made of the same materials in the same amounts as that instantly claimed, and exhibits high embrittlement resistance, as discussed above.

Regarding the limitations of claim 7, which requires the film to comprise 0.1-1.0% by weight of a hydrolysis stabilizer. This limitation is met as set forth above for claim 1, as Rogers et al. clearly teaches that 0.1-5% by weight of a hydrolysis stabilizer should be added to polyesters. As 0.1 specifically falls within the range specified by the applicant in claim 7, this limitation is met.

Regarding the limitations of claim 8, wherein the applicant requires the polyester film to have two layers comprising a base and at least one outer layer. This limitation is met as set forth above, as Peiffer explicitly teaches the formation of a base layer and an outer layer. Regarding claims 9-12, which require that the outer layer of the polyester film of claim 8 contain .5-30% by weight of a flame retardant, and 0.1-5% by weight of a hydrolysis stabilizer in the outer layer. Peiffer teaches that the additives can be added to the base and the outer layers (column 6, lines 49-51).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to add 5-40% of a flame retardant such as DMMP as taught by Oishi et al. and 0.1-5% by weight of a hydrolysis stabilizer as taught by Rogers to the outer layer of the polyester film of Peiffer.

One would have been motivated to make these additions for the reasons set forth above for each component and in view of the teaching in Peiffer that the additives can be added to both the base and outer layers.

Regarding the limitations of claims 14-17, wherein the applicant requires the polyester film of claim 1 to exhibit various optical properties. The examiner takes the position that these requirements are met by the combination of Peiffer with Oishi and Rogers, as this combination

Art Unit: 1773

results in a polyester film comprising the same components in the same ratios as that of the instantly claimed invention. Furthermore, Peiffer teaches examples that expressly meet the claimed gloss (i.e. example 4), and teaches that the "gloss and haze of the film have been significantly improved" (column 8, lines 29-33).

Regarding claims 18 and 21, the total thickness of the polyester film of Peiffer is preferably 5-30 microns. Thus, applicant's thickness imitation is met. Applicant flame retardant requirement is met as set forth above.

Regarding the requirement that the material pass the requirements for construction material classes B2 and B1 to DIN 4102, the examiner takes the position that this property will flow naturally from the combination of Peiffer with Oishi and Rogers as set forth above. This combination results in a polyester film having substantially the same structure and composition as that of the instantly claimed polyester film. Thus, it is logical to believe that this limitation is met.

Claim 19 requires a transparent biaxially oriented film *comprising polyester* consisting of polyethylene terephthalate. The examiner notes that the biaxially oriented polyester of Peiffer comprises three layers, wherein the innermost layer is formed from polyethylene terephthalate (PET).

With respect to claim 20, the examiner maintains that the composition taught by the prior art as detailed above is substantially the same as that disclosed and claimed by Applicant. As such one of ordinary skill in the art would expect that it would exhibit the claimed properties.



Art Unit: 1773

4. Claims 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peiffer as modified by Oishi and Rogers as applied above, and further in view of Murschall (DE19630599).

Peiffer as modified by Oishi and Rogers as applied above fails to teach the specific type of hydrolysis stabilizers required by claim 5 and the recycled material requirement of claim 13.

However, Murschall et al. teaches that antioxidants such as sterically hindered phenols or carbodiimide are suitably added to polyester compositions (page 3, table). These additives exhibit both antioxidant and hydrolysis stabilizing qualities that prevent the degradation of the polymer (page 3, lines 5-10).

Therefore it would have been obvious to one with ordinary skill in the art to utilize a sterically hindered phenol as taught by Murschall as the hydrolysis stabilizer in Peiffer as modified by Oishi and Rogers, as the prior art recognizes the equivalency of sterically hindered phenols and carbodiimide hydrolysis stabilizers in polyesters.

Substitution of equivalents requires no express motivation as long as the prior art recognizes the equivalency. In re Fount 213 USPQ 532 (CCPA 1982), In re Siebentritt 152 USPQ 618 (CCPA 1967), Grover Tank & Mfg. Co. Inc V. Linde Air Products Co. 85 USPQ 328 (USSC 1950).

Furthermore, Murschall teaches that transparent polyester compositions can be made from recycled material (page 5, lines 23-25). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize recycled material as taught by Murschall in the polyester film taught by Peiffer as modified by Oishi and Rogers.

One would have been motivated to make this modification for a variety of reasons, such as the environmental benefits that would be obtained from using recycled material.

***Response to Arguments***

5. Applicant's arguments filed 3/3/05 have been fully considered but they are not persuasive..

Applicant argues that the claims now require the incorporation of only soluble flame retardants. The examiner respectfully disagrees with this interpretation of the claims. Claim 1 now requires "a polyester film comprising...one or more flame retardant(s) each or which is soluble in polyester." The examiner has interpreted this claim limitation to be open to unrecited elements, including insoluble flame retardants in view of the use of the term "comprising." Thus, Applicant's argument that US 048 teaches away from the claimed invention because it uses "a flame retardant that is chemically bonded to the polymer chain" is not persuasive because such a flame retardant is not excluded by the present claims.

Applicant also suggests the presence of unexpected results associated with the claimed polyester films (i.e., unexpected properties when exposed to temperatures of 100 degrees C for 100 hours). However, the examiner maintains the position that the claimed properties directed to performance of the claimed polyester film after exposure to temperatures of 100 degrees C would be met by the aforementioned combination of references.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Art Unit: 1773

In view of the fairly lengthy prosecution history of this case, Applicant is invited to contact the examiner upon receipt of this Office action to schedule an interview. If Applicant agrees, an interview could be scheduled to discuss the issues in this case and possibly expedite prosecution.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Rickman whose telephone number is (571) 272-1514. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Holly Rickman  
Primary Examiner  
Art Unit 1773